

RECEIVED
CENTRAL FAX CENTER
JAN 30 2007

10/527,476

REMARKS

Claims 6-11 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for the reasons noted in the official action. The rejected claims are accordingly amended, by the above claim amendments, and the presently pending claims are now believed to particularly point out and distinctly claim the subject matter regarded as the invention, thereby overcoming all of the raised § 112, second paragraph, rejections. The entered claim amendments are directed solely at overcoming the raised indefiniteness rejection(s) and are not directed at distinguishing the present invention from the art of record in this case.

Next, claims 6-11 are rejected, under 35 U.S.C. § 102(b), as being anticipated by Fulmer et al. '196. The Applicant acknowledges and respectfully traverses the raised anticipatory rejection in view of the following remarks.

It will first be noted that independent claims 6, 9 and 12 are amended to more explicitly recite the present invention and thereby to more explicitly distinguish the present invention over Fulmer et al. '196. Accordingly, now considering the present invention, as recited in independent claims 6, 9 and 12, the present invention is directed to a method for preventing a stationary vehicle from unintentionally rolling away and, in particular, a method for preventing a stationary vehicle from unintentionally rolling away by preventing the driver from leaving the vehicle without setting the parking brake, for example.

That is, the present invention recognizes that a driver will normally stop a vehicle and hold the vehicle in a stationary state while stopped by pressing on a brake pedal to activate the brake holding mode. The present invention also recognizes that the driver must release the brake pedal before applying pressure to the gas pedal to initiate motion of the vehicle, and that during the interval when the driver is moving from the brake pedal to the gas pedal, the vehicle may roll in an wanted direction. The present invention prevents unwanted rolling of the vehicle, during the period between releasing the brake pedal and depressing the gas pedal, by holding the braking mode active until the clutch takes up control and movement of the vehicle.

1/30/07 7:48 AM

- 4 -

BEST AVAILABLE COPY

10/527,476

The present invention also recognizes that the driver may inadvertently leave the vehicle, thus releasing the brake pedal, but without, for example, setting a parking brake. For this reason, the present invention provides a warning to the driver that the parking brake is not set by deactivating the brake holding mode and allowing the vehicle to begin slowly rolling after a predetermined delay after the driver releases the brake pedal and if the driver has not re-applied the brake or has not activated the clutch during that delay.

According to the present invention, as recited in independent claims 6, 9 and 12, the method of the present invention is executed when the vehicle is stationary and when the transmission is not in a neutral position and includes the steps of activating a brake holding mode by activating a brake pedal and subsequently deactivating the brake holding mode by either a displacement of a clutch wherein the clutch displacement indicates an actual takeover torque of the clutch or after a timing delay when the brake pedal has not been activated during the time delay.

Next considering the teachings of Fulmer et al. '196, this reference describes a vehicle hill holder system wherein a brake control system is responsive to a vehicle attitude sensor, that is, a hill sensor, the vehicle ignition, the vehicle speed and the direction, that is, whether the engine is on and the vehicle is stopped or in motion, a clutch pedal and a brake pedal. When the brake control system detects that the vehicle is stopped on a hill with the engine running and the clutch is depressed, the control system will activate a brake booster to place the brake in the brake holding mode and to subsequently hold the brake in the brake holding mode if the driver subsequently releases the brake pedal. The brake booster then remains activated, and the brake in the brake holding mode, until the driver subsequently depresses the clutch pedal to activate the clutch so that the engine and transmission can assume the vehicle holding function. It is, therefore, apparent that there are a number of fundamental distinctions between the present invention and the teachings of Fulmer et al. '196.

For example, the Fulmer et al. '196 system deactivates the brake holding mode only upon activation of the clutch pedal, which means that the Fulmer et al. '196 system requires

1/30/07 7:48 AM

- 5 -

BEST AVAILABLE COPY

10/527,476

a manual transmission in order to have a clutch pedal. It must also be noted that the brake holding mode is deactivated only upon activation of the clutch pedal rather than when the transmission and clutch actually take up control of the vehicle motion, which means that there is a period of time during vehicle start-up when the vehicle can roll undesirably before the transmission and the clutch assume control of the vehicle motion.

In distinct contrast to the system of Fulmer et al. '196, the system and method of the present invention deactivates the brake holding mode upon an actual displacement or motion of the clutch, rather than of a clutch pedal. In fundamental contrast and distinction from the Fulmer et al. '196 system, therefore, the present invention deactivates the brake mode only when the clutch, and thus the transmission, has actually assumed the load of the vehicle so that, in complete contrast from the Fulmer et al. '196 system, there is no interval between the release of the brake and the assumption of vehicle control by the clutch and the transmission.

In still further fundamental contrast from the Fulmer et al. '196 system, the present invention does not depend upon or require, in any way, the activation of a clutch pedal and is thus usable with an automatic clutch while, as discussed above, the Fulmer et al. '196 system is usable only with a manual clutch for a manual shift transmission.

In still further fundamental distinction between the present invention and the Fulmer et al. '196 system, once the brake booster of the Fulmer et al. '196 system is activated by the brake pedal, the brake booster remains activated, holding the brake in the brake holding mode, until the driver subsequently depresses the clutch pedal. As a consequence, it is very possible for the driver release the brake pedal after the brake booster is activated, or even to get out of the vehicle and leave the vehicle unattended, with the brake booster alone holding the vehicle in the braked mode and so that if the brake system or brake booster should fail, or slip in some manner, the vehicle would then be free to roll. It must be noted that this very hazardous condition is built into the Fulmer et al. '196 system and is, in fact, a part of the intended operation of the Fulmer et al. '196 system.

10267-748 A M

- 6 -

10/527,476

In fundamental contrast from the Fulmer et al. '196 system, and as described above and as recited in the amended claims, the present invention is designed such that the brake holding mode will be automatically deactivated a predetermined time delay after the brake holding mode is activated. As described, this time delay is sufficient to aid the driver in releasing the brake and starting the vehicle, but short enough so that the driver cannot, for example, inadvertently leave the vehicle unattended and held in the brake mode solely by the brake controller. More specifically, the present invention deactivates the brake holding mode in time to warn the driver that the parking brake, for example, is not set by allowing the vehicle to start slowly rolling after the expiration of the time delay. The operation of the present invention is therefore not only completely unconsidered by Fulmer et al. '196, but is, in fact, directly contrary to the teachings of Fulmer et al. '196.

It is therefore the Applicant's belief and position that Fulmer et al. '196 does not in any way teach, suggest or disclose the present invention, as recited in independent claims 6, 9 and 12, and thereby in dependent claims 7, 8, 10 and 11, under the requirements and provisions of 35 U.S.C. § 102 and/or § 103. Thus, independent claims 6, 9 and 12 as well as dependent claims 7, 8, 10 and 11 are thereby completely and patentably distinguished over and from Fulmer et al. '196. The Applicant therefore respectfully requests that the Examiner reconsider and withdraw all rejections of claims 6-11, over the cited prior art, and allow claims 6-11 as presented herein.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejection(s) should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Fulmer et al. '196 reference, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary

10/30/07 7:48 AM

- 7 -

10/527,476

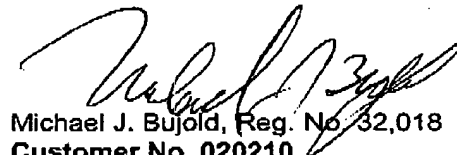
teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



Michael J. Bujold, Reg. No. 32,018

Customer No. 020210

Davis Bujold & Daniels, P.L.L.C.

112 Pleasant Street

Concord, NH 03301-2931

Telephone 603-226-7490

Facsimile 603-226-7499

E-mail: patent@davisandbujold.com

1/30/07 7:49 AM

- 8 -